

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-21 (Canceled).

Claim 22 (Currently Amended): ~~The method of claim 21,~~ A method for forming an insulating film on a silicon-containing substrate to be processed, comprising:

forming a gas mixture by mixing a nitrogen containing gas and an oxygen containing gas, the nitrogen containing gas being a nitrogen gas or a nitrogen compound gas and the oxygen containing gas being an oxygen gas or an oxygen compound gas;

exciting the gas mixture using a high frequency plasma to produce nitrogen radicals and oxygen radicals;

supplying the nitrogen radicals and the oxygen radicals to a surface of the substrate;
and

creating an insulating film containing nitrogen using the nitrogen radicals and the oxygen radicals on the surface of the substrate,

wherein, when the gas mixture is formed, at least one of the oxygen containing gas and the nitrogen containing gas is provided intermittently, and

wherein, when the gas mixture is formed, a ratio between a gas supplying time and a gas stoppage time for each of said at least one of the oxygen containing gas and the nitrogen containing gas varies with time, the gas supplying time being an amount of time during which each of said at least one of the oxygen containing gas and the nitrogen containing gas is supplied, and the gas stoppage time being an amount of time during which each of said at least one of the oxygen containing gas and the nitrogen containing gas is not supplied.

Claim 23 (Canceled).

Claim 24 (Previously Presented): The method of claim 22, the nitrogen radicals and the oxygen radicals are supplied onto the substrate to flow along the surface of the substrate.

Claim 25 (Previously Presented): A method for forming an insulating film on a silicon-containing substrate to be processed, comprising:

forming a gas mixture of a gas mixture ratio by providing a nitrogen containing gas and an oxygen containing gas to a gas mixing unit, the nitrogen containing gas being a nitrogen gas or a nitrogen compound gas and the oxygen containing gas being an oxygen gas or an oxygen compound gas;

forming nitrogen radicals and oxygen radicals by providing the gas mixture from the gas mixing unit to a plasma exciting unit; and

supplying the nitrogen radicals and the oxygen radicals from the plasma exciting unit to a surface of the substrate to form an insulating film containing nitrogen using the nitrogen radicals and the oxygen radicals on the surface of the substrate,

wherein, when the gas mixture is formed, at least one of the oxygen containing gas and the nitrogen containing gas is provided intermittently to the gas mixing unit, and

wherein the gas mixture ratio between the oxygen containing gas and the nitrogen containing gas is controlled by adjusting a ratio between a gas supplying time and a gas stoppage time for each of said at least one of the oxygen containing gas and the nitrogen containing gas, the gas supplying time being an amount of time during which each of said at least one of the oxygen containing gas and the nitrogen containing gas is being supplied to the gas mixing unit, and the gas stoppage time being an amount of time during which each of said at least one of the oxygen containing gas and the nitrogen containing gas is not supplied to the gas mixing unit.